AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of controlling a tower boom path in a boom lift vehicle, the boom lift vehicle including a telescoping tower boom pivotally coupled at one end to a vehicle base, and a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom, the method comprising raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length, wherein pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom are performed simultaneously and independently such that the tower boom nose pin follows one of a plurality of predetermined ~~path~~paths depending on an angle of the main boom.

2. (Original) A method according to claim 1, wherein the raising and lowering of the tower boom is controlled with a single control switch.

3. (Previously Presented) A method of controlling a tower boom path in a boom lift vehicle, the boom lift vehicle including a telescoping tower boom pivotally coupled at one end to a vehicle base, and a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom, the method comprising raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length, wherein pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom are

performed simultaneously such that the tower boom nose pin follows a predetermined path, and wherein pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom are controlled such that the nose pin predetermined path comprises (1) a constant radius equal to a fully retracted length of the tower boom for tower boom angles less than a predetermined angle relative to gravity, and (2) a substantially straight line tangent to the constant radius for tower boom angles greater than the predetermined angle relative to gravity.

4. (Original) A method according to claim 3, wherein the predetermined angle is less than 10° relative to gravity.

5. (Original) A method according to claim 3, wherein the predetermined angle is about 6.6°.

6. (Currently Amended) A method of controlling lifting functions in a boom lift vehicle, the boom lift vehicle including a telescoping tower boom pivotally coupled at one end to a vehicle base, and a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom, the method comprising raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length, wherein pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom are performed simultaneously and independently such that the tower boom nose pin follows one of a plurality of predetermined ~~path~~paths depending on an angle of the main boom.

7. (Original) A method according to claim 6, further comprising controlling an angle of the main boom relative to the tower boom based on a position of the tower boom.

8. (Original) A method according to claim 7, wherein the step of controlling an angle of the main boom relative to the tower boom comprises maintaining the main boom angle relative to gravity as measured at (1) the commencement of a tower lift control or (2) the conclusion of a main boom lift command when the main boom is active with a tower lift command.

9. (Original) A method according to claim 6, wherein the raising and lowering of the tower boom is controlled with a single control switch.

10. (Currently Amended) A boom lift vehicle comprising:

a vehicle base;

a telescoping tower boom pivotally coupled at one end to the vehicle base;

a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom; and

a control system controlling positioning of the tower boom and the main boom, the control system being configured for raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length, wherein the control system effects pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom simultaneously and independently such that the tower boom nose pin follows one of a plurality of predetermined ~~path~~paths depending on an angle of the main boom.

11. (Original) A boom lift vehicle according to claim 10, further comprising a single control switch coupled with the control system to effect the raising and lowering of the tower boom.

12. (Original) A boom lift vehicle according to claim 10, wherein the control system is configured to control pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom such that the nose pin predetermined path comprises (1) a constant radius equal to a fully retracted length of the tower boom for tower boom angles less than a predetermined angle, and (2) a substantially straight line tangent to the constant radius for tower boom angles greater than the predetermined angle.

13. (Original) A boom lift vehicle according to claim 12, wherein the predetermined angle is less than 10° relative to gravity.

14. (Original) A boom lift vehicle according to claim 12, wherein the predetermined angle is about 6.6°.

15. (Original) A boom lift vehicle according to claim 10, wherein the control system is configured to effect control of an angle of the main boom relative to the tower boom based on a position of the tower boom.

16. (Original) A boom lift vehicle according to claim 15, wherein the control system is further configured to control an angle of the main boom relative to the tower boom by maintaining the main boom angle relative to gravity as measured at (1) the commencement of a tower lift control or (2) the conclusion of a main boom lift command when the main boom is active with a tower lift command.

17. (Original) A boom lift vehicle according to claim 10, further comprising means for sensing an angle of the main boom relative to gravity.

18. (Original) A boom lift vehicle according to claim 17, wherein the sensing means comprises:

an inclinometer attached to the tower boom, the inclinometer measuring an angle of the tower boom relative to gravity; and

a rotation sensor coupled between the tower boom and the main boom, the rotation sensor determining a relative position of the tower boom and the main boom,

wherein the control system determines the main boom angle relative to gravity based on output from the inclinometer and the rotation sensor.

19. (Currently Amended) A boom lift vehicle comprising:

a vehicle base;

a telescoping tower boom pivotally coupled at one end to the vehicle base;

a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom; and

a control system controlling positioning of the tower boom and the main boom, the control system being configured for raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length,

wherein the boom lift vehicle is without an upright between the tower boom and the main boom, and wherein the control system effects pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom simultaneously and independently such that the tower boom nose pin follows one of a plurality of predetermined ~~path~~paths depending on an angle of the main boom.

20. (Original) A boom lift vehicle according to claim 19, further comprising means for sensing an angle of the main boom relative to gravity.

21. (Original) A boom lift vehicle according to claim 20, wherein the sensing means comprises:

an inclinometer attached to the tower boom, the inclinometer measuring an angle of the tower boom relative to gravity; and

a rotation sensor coupled between the tower boom and the main boom, the rotation sensor determining a relative position of the tower boom and the main boom,

wherein the control system determines the main boom angle relative to gravity based on output from the inclinometer and the rotation sensor.

22. (Previously Presented) A method of controlling a tower boom path in a boom lift vehicle, the boom lift vehicle including a telescoping tower boom pivotally coupled at one end to a vehicle base, and a main boom pivotally coupled to a tower boom nose pin at an opposite end of the tower boom, the method comprising raising and lowering the tower boom between a fully retracted position and a raised position by pivoting the tower boom relative to the vehicle base and by telescoping the tower boom, the raised position including any position up to a maximum angle of the tower boom relative to the vehicle base and a maximum boom length, wherein pivoting of the tower boom relative to the vehicle base and telescoping of the tower boom are performed simultaneously such that the tower boom nose pin follows a predetermined path, and wherein the predetermined path is varied based on an angle of the main boom relative to gravity.